

**FLUIDWELL**  
Accurate Liquid Management

# F-SERIES

indicators  
totalisers  
transmitters  
flow computers  
batch controllers  
monitors

**FOR**

**flow**  
**level**  
**pressure**  
**temperature**





*Pipeline mounting*



*IP67 / NEMA 4X  
environmental protection*



*Wall mounting with backlight*



*Flowmeter mounting*

## Introduction

The F-series range offers you an extensive selection of indicators, controllers and monitoring systems for liquid and gas flow applications as well as for level, pressure and temperature measurement. Its sturdy industrial design is a major feature, utilizing an innovative die-cast aluminum case. Exceptional functionality has ensured that the F-series has become a very popular range of local indicators, controllers and signal transmitters.

## Industrial applications

The F-series range has been developed for typical industrial environments. It is sturdy and weather-proof through its aluminum IP67 / NEMA4X field enclosure. The coated aluminum enclosure can be mounted directly onto sensors or walls and pipes. It is also suitable for panel mount applications, with one major advantage: it requires minimal depth clearance. Also available is a more cost effective ABS enclosure with the same dimensions and protection rating, for both panel and wall mount applications.

The high specification electronics guarantee reliable operation in the temperature range from -40°C up to +80°C (-40°F / +178°F).

## Operational

Fluidwell is acutely aware of the excessive amount of equipment which today's technicians need to control. For this reason, a clear user-friendly menu structure was developed for programming all Fluidwell products a number of years ago. Since all models are programmed in the same logical manner, technicians can now save a great deal of time and effort. The configuration of the unit is fully menu-driven with understandable texts, avoiding confusing abbreviations. The Operators main information is displayed in clear 17mm (0.7") and 8mm (0.3") alpha-numerical characters. An adjustable two-color backlight is available that switches from green to red in case a low-flowrate alarm is generated for example.

## Input features

- The instrument will accept signals from most flowmeters, ranging from PD-meters with reed-switches or hall-effect sensors to turbine coil pick-ups and other NPN / PNP pulse outputs. NAMUR standard sensors and (0)4 - 20 mA or 0 - 10V DC analog devices are also catered for.
- For level, pressure and temperature measurement, inputs are available for (0)4 - 20mA or 0 - 10V DC signals and for 2 or 3 wire PT100 elements. Linearisation of the input signal, square root calculation and data filter functions are all available.

## Output features

Related to the functionality of the selected unit, the following output features are available:

- Analog output proportional to the flowrate, level, differential, ratio, temperature or pressure. This turns the unit into a powerful transmitter with a local display. The (0)4 - 20mA or 0 - 10V DC output can also be used to control actuators or pumps.
- Transistor or relay outputs for high and low alarms, pulse output, flow-direction as well as the control of valves / relays in batch control applications.
- The RS232, RS485 or TTL interface makes it possible to communicate remotely, even with a battery-powered unit. All configuration settings can be modified in addition to the usual transfer of data using the Modbus protocol.

The RS485 communication allows up to 255 different units to be addressed.



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### Actual size

operational temperature  
-30°/-40°C up to +80°C  
(-20°/-40°F to +178°F)

measurement units for TOTAL

displayed  
function

clear 17mm (0.7")  
numeric  
characters

trend  
indication

large LCD  
with  
backlight  
option

time and  
measurement  
units for flow rate,  
level, pressure or  
temperature

clear 8mm (0.3") alpha numeric display

status

rugged  
micro-switch keys

sturdy  
aluminum field enclosure  
IP67 / NEMA 4X



### Power Management

During the development of the F-series, ultra-low power consumption was a key-requirement. Thanks to recent advancements in CMOS technology, Fluidwell has extended the battery life significantly and introduced several smart power-management functions.

Result: a battery lifetime of seven years can be achieved. Additionally, several alternative means of powering the F-series are available: loop-powered, 24V AC / DC, 115 - 230V AC and solar power.

All settings are stored in EEPROM, which means that you won't lose information when replacing the battery or in the event of sudden power loss. A backup of the running totals is made every minute.

### Hazardous area installation

All F-series products can be supplied certified intrinsically safe to ATEX  $\text{Ex}$  II 1 GD EEx ia IIB/IIC T4. Full functionality remains available, including analog, pulse / alarm outputs and Modbus communication. The units can be lithium battery powered, or connected to an external power source if required.

An explosion-proof enclosure is also available which has been certified in accordance to ATEX  $\text{Ex}$  II 2 EEx d IIB T5.









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## Terminal connections



internal battery or  
loop powered,  
12 / 24V AC / DC  
115 / 230V AC



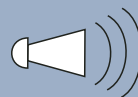
RS232 / RS485 / TTL  
Modbus communication

flow meter power supply  
3.2 / 8.2 / 12 / 24V DC

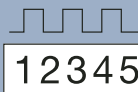


(0)4 - 20mA / 0 - 10V DC  
analog output

control output



up to 4 high / low  
alarm outputs



scaled pulse-output

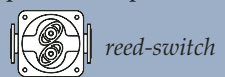
## Typical inputs:

Turbine flowmeter



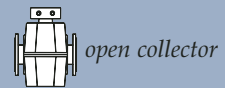
coil

PD-flowmeter  
positive displacement



reed-switch

Magnetic inductive  
flowmeter



open collector

Coriolis  
massflowmeter



PNP-pulse

Vortex flowmeter



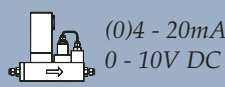
NPN-pulse

Ultrasonic flowmeter



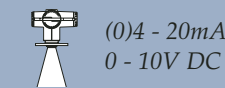
NAMUR

Massflowmeter



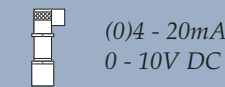
(0)4 - 20mA  
0 - 10V DC

Level



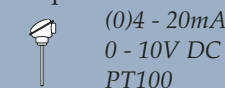
(0)4 - 20mA  
0 - 10V DC

Pressure



(0)4 - 20mA  
0 - 10V DC

Temperature



(0)4 - 20mA  
0 - 10V DC  
PT100



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